



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5 CHICAGO REGIONAL LABORATORY
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605



Date: 10/13/2017
Subject: Review of Region 5 Data for U.S. Steel - Minntac Tailings Basin Area Facility
To: Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago, IL 60604
From: Francis Awanya, Chemist
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation* and the U.S. EPA Region 5 RMD QMP, CRL performs data verification on all the data generated internally. CRL does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

X Francis A Awanya

10/13/2017

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: U.S. Steel - Minntac Tailings Basin Area Facility

Data Coordinator and Date Transmitted

Analyses included in this report:

Solids, TDS

Solids, TSS



Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5
77 West Jackson Boulevard
Chicago IL, 60604

Project: U.S. Steel - Minntac Tailings Basin Area Facility
Project Number: 02DM17
Project Manager: Dean Maraldo

Reported:
Oct-13-17 13:15

Analysis Case Narrative

General Information

Sixteen (16) water samples collected for the project were received at the Chicago Regional Laboratory (CRL) on 09/14/2017. Total Suspended Solids (Solids, TSS) analysis was assigned to those samples. The samples were analyzed for TSS using Standard Operating Procedure (SOP) CRL Document # AIG018 Version # 3 (Based on SM 2540 D (APHA, AWWA, WEF)). The designated analyst is Francis Awanya. Francis can be reached at 312-886-3682. Other pertinent information is provided in the final analysis report.

The sample preparation and analysis began on 09/20/2017 and were completed on 09/22/2017. Samples 1709003-01 (Sample Name: S01), 1709003-02 (Sample Name: S02), 1709003-03 (Sample Name: S03), 1709003-04 (Sample Name: S04), 1709003-05 (Sample Name: D05), 1709003-06 (Sample Name: S06), 1709003-07 (Sample Name: S07), 1709003-08 (Sample Name: S08), 1709003-09 (Sample Name: S09), 1709003-10 (Sample Name: S10) were not analyzed within the holding time. The sample results are flagged "J" for estimated: The identification of the analyte is acceptable; the reported value is an estimate. The remaining samples were analyzed within the holding time.

Sample Analysis and Results

The data reported herein met the requirements of Quality Assurance Project Plan (QAPP)/Sampling Plan for Environmental Compliance Assessment for U.S. Steel – Minntac Tailings Basin Area Facility dated August 2017 and the CRL SOP used for analysis. The QAPP is archived as "MN0057207_Minntac_QAPPSAMP_20170831" in the CRL share drive.

Quality Control

All required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the CRL's QC limits except analysis holding time for the samples listed above.



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Project Manager: Dean Maraldo

Reported:
Oct-13-17 13:15

Analysis Case Narrative

General Information

Sixteen (16) water samples collected for the project were received at the Chicago Regional Laboratory (CRL) on 09/14/2017. Total Dissolved Solids (Solids, TDS) analysis was assigned to those samples. The samples were analyzed for TDS using Standard Operating Procedure (SOP) CRL Document # AIG017 Version # 4 (Based on SM 2540 C (APHA, AWWA, WEF)). The designated analyst is Francis Awanya. Francis can be reached at 312-886-3682. Other pertinent information is provided in the final analysis report.

The sample preparation and analysis began on 09/20/2017 and were completed on 09/22/2017. Samples 1709003-01 (Sample Name: S01), 1709003-02 (Sample Name: S02), 1709003-03 (Sample Name: S03), 1709003-04 (Sample Name: S04), 1709003-05 (Sample Name: D05), 1709003-06 (Sample Name: S06), 1709003-07 (Sample Name: S07), 1709003-08 (Sample Name: S08), 1709003-09 (Sample Name: S09), 1709003-10 (Sample Name: S10) were not analyzed within the holding time. The sample results are flagged "J" for estimated: The identification of the analyte is acceptable; the reported value is an estimate. The remaining samples were analyzed within the holding time.

Sample Analysis and Results

The data reported herein met the requirements of Quality Assurance Project Plan (QAPP)/Sampling Plan for Environmental Compliance Assessment for U.S. Steel – Minntac Tailings Basin Area Facility dated August 2017 and the CRL SOP used for analysis. The QAPP is archived as "MN0057207_Minntac_QAPPSAMP_20170831" in the CRL share drive.

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Project Manager: Dean Maraldo

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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01	1709003-01	Water	Sep-12-17 09:57	Sep-14-17 13:26
S02	1709003-02	Water	Sep-12-17 10:23	Sep-14-17 13:26
S03	1709003-03	Water	Sep-12-17 10:50	Sep-14-17 13:26
S04	1709003-04	Water	Sep-12-17 11:08	Sep-14-17 13:26
D05	1709003-05	Water	Sep-12-17 11:08	Sep-14-17 13:26
S06	1709003-06	Water	Sep-12-17 11:30	Sep-14-17 13:26
S07	1709003-07	Water	Sep-12-17 11:51	Sep-14-17 13:26
S08	1709003-08	Water	Sep-12-17 14:03	Sep-14-17 13:26
S09	1709003-09	Water	Sep-12-17 15:00	Sep-14-17 13:26
S10	1709003-10	Water	Sep-12-17 15:15	Sep-14-17 13:26
S11	1709003-11	Water	Sep-13-17 09:44	Sep-14-17 13:26
S12	1709003-12	Water	Sep-13-17 09:49	Sep-14-17 13:26
S13	1709003-13	Water	Sep-13-17 09:55	Sep-14-17 13:26
S14	1709003-14	Water	Sep-13-17 10:23	Sep-14-17 13:26
S15	1709003-15	Water	Sep-13-17 11:10	Sep-14-17 13:26
R16	1709003-16	Water	Sep-13-17 12:52	Sep-14-17 13:26



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Project Number: 02DM17
Project Manager: Dean Maraldo

Reported:
Oct-13-17 13:15

Dissolved Solids, SM 2540C (modified) US EPA Region 5 Chicago Regional Laboratory

S01 (1709003-01) Matrix: Water Sampled: Sep-12-17 09:57 Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	1040	J		20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S02 (1709003-02) Matrix: Water Sampled: Sep-12-17 10:23 Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	1520	J		20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S03 (1709003-03) Matrix: Water Sampled: Sep-12-17 10:50 Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	2350	J		20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S04 (1709003-04) Matrix: Water Sampled: Sep-12-17 11:08 Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	2280	J		20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

D05 (1709003-05) Matrix: Water Sampled: Sep-12-17 11:08 Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	2300	J		20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S06 (1709003-06) Matrix: Water Sampled: Sep-12-17 11:30 Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	2270	J		20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S07 (1709003-07) Matrix: Water Sampled: Sep-12-17 11:51 Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	1210	J		20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S08 (1709003-08) Matrix: Water Sampled: Sep-12-17 14:03 Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	104	J		20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17



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Project Number: 02DM17
Project Manager: Dean Maraldo

Reported:
Oct-13-17 13:15

Dissolved Solids, SM 2540C (modified) US EPA Region 5 Chicago Regional Laboratory

S09 (1709003-09)

Matrix: Water

Sampled: Sep-12-17 15:00

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	1780	J		20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S10 (1709003-10)

Matrix: Water

Sampled: Sep-12-17 15:15

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	1970	J		20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S11 (1709003-11)

Matrix: Water

Sampled: Sep-13-17 09:44

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	1930			20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S12 (1709003-12)

Matrix: Water

Sampled: Sep-13-17 09:49

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	1890			20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S13 (1709003-13)

Matrix: Water

Sampled: Sep-13-17 09:55

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	1900			20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S14 (1709003-14)

Matrix: Water

Sampled: Sep-13-17 10:23

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	594			20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

S15 (1709003-15)

Matrix: Water

Sampled: Sep-13-17 11:10

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	1190			20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17

R16 (1709003-16)

Matrix: Water

Sampled: Sep-13-17 12:52

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	U			20.0	mg/L	1	B17I024	Sep-20-17	Sep-20-17



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Reported:
Oct-13-17 13:15

Total Suspended Solids, SM 2540 D (modified) US EPA Region 5 Chicago Regional Laboratory

S01 (1709003-01)

Matrix: Water

Sampled: Sep-12-17 09:57

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	6	J		5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S02 (1709003-02)

Matrix: Water

Sampled: Sep-12-17 10:23

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	U	J		5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S03 (1709003-03)

Matrix: Water

Sampled: Sep-12-17 10:50

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	10	J		5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S04 (1709003-04)

Matrix: Water

Sampled: Sep-12-17 11:08

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	U	J		5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

D05 (1709003-05)

Matrix: Water

Sampled: Sep-12-17 11:08

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	12	J		5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S06 (1709003-06)

Matrix: Water

Sampled: Sep-12-17 11:30

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	U	J		5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S07 (1709003-07)

Matrix: Water

Sampled: Sep-12-17 11:51

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	U	J		5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S08 (1709003-08)

Matrix: Water

Sampled: Sep-12-17 14:03

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	13	J		5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S09 (1709003-09)

Matrix: Water

Sampled: Sep-12-17 15:00

Received: Sep-14-17 13:26



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Reported:
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Total Suspended Solids, SM 2540 D (modified) US EPA Region 5 Chicago Regional Laboratory

S09 (1709003-09)

Matrix: Water

Sampled: Sep-12-17 15:00

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	206	J		5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S10 (1709003-10)

Matrix: Water

Sampled: Sep-12-17 15:15

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	U	J		5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S11 (1709003-11)

Matrix: Water

Sampled: Sep-13-17 09:44

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	U			5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S12 (1709003-12)

Matrix: Water

Sampled: Sep-13-17 09:49

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	12			5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S13 (1709003-13)

Matrix: Water

Sampled: Sep-13-17 09:55

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	18			5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S14 (1709003-14)

Matrix: Water

Sampled: Sep-13-17 10:23

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	6			5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

S15 (1709003-15)

Matrix: Water

Sampled: Sep-13-17 11:10

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	U			5	mg/L	1	B17I025	Sep-20-17	Sep-20-17

R16 (1709003-16)

Matrix: Water

Sampled: Sep-13-17 12:52

Received: Sep-14-17 13:26

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	U			5	mg/L	1	B17I025	Sep-20-17	Sep-20-17



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Notes and Definitions

J The identification of the analyte is acceptable; the reported value is an estimate.
U Not Detected
NR Not Reported
Q QC limit Exceeded

